



Motus Stations on National Wildlife Refuges in the South Atlantic Landscape Conservation Cooperative



Automated radio telemetry station (Motus station) at Mackay Island National Wildlife Refuge, North Carolina, credit USFWS/Adam Smith.

National wildlife refuges provide habitat for more than 700 species of birds, 220 species of mammals, 250 reptile and amphibian species and more than 1,000 species of fish. More than 380 threatened or endangered species are protected on wildlife refuges. Each year, millions of migrating animals use refuges as stepping stones while they fly thousands of miles between their summer and winter homes.

The **Motus Wildlife Tracking System (Motus; www.motus.org)**, a project of Bird Studies Canada in partnership with Acadia University and others, comprises a network of coordinated automated radio telemetry stations that track the movements of tagged animals throughout terrestrial and coastal environments. Launched in 2013, Motus has grown to more than 300 active receiving stations. The receiving stations listen around the clock for passing animals wearing a digital “nanotag” tracking device. Nanotags are lightweight, digital VHF radio transmitters that enable hundreds of individual animals to be monitored simultaneously on the same radio frequency. Each year, scientists from numerous universities and agencies deploy hundreds of nanotags to track migratory movements of multiple species of seabirds, shorebirds, songbirds, raptors, and bats throughout eastern North America. The collaborative effort depends on receiving stations along the route to record passing animals. Receiving stations log tag detections in real time, and flying animals can usually be detected up to 15 km away.

To fill one of the key gaps in the Motus network along the South Atlantic coast, in fall 2015 the Southeast Region Inventory and Monitoring Branch (www.fws.gov/southeast/IMnetwork) coordinated the installation of multiple Motus stations on coastal southeast



Merlin (*Falco columbarius*) with nanotag to track its Atlantic Coast migration, credit Biodiversity Research Institute/Rick Gray.

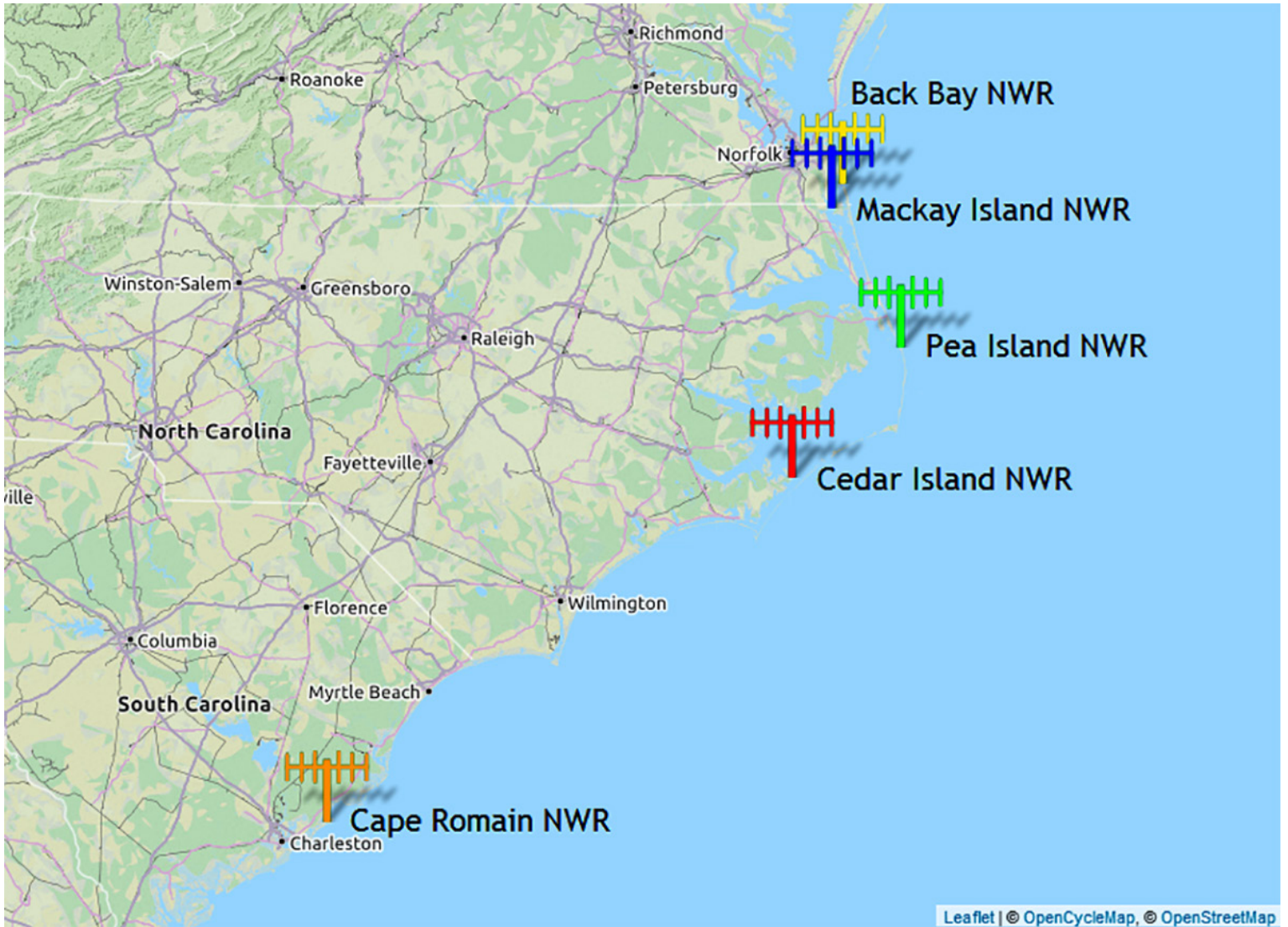
refuges to contribute to this continental tracking network: Back Bay (VA), Mackay Island (NC), Pea Island (NC), Cedar Island (NC), and Cape Romain (SC). Additional stations are forthcoming. These stations are the result of partnerships between the National Wildlife Refuge System (Southeast and Northeast regions), Migratory Birds (Southeast and Northeast regions) and Ecological Services programs. This collaborative approach will help coordinate conservation, research, and management efforts of many species across many political and geographic boundaries. Information from these stations will help U.S. Fish and Wildlife Service and partners expand multiple-species monitoring efforts across scales along the Atlantic Flyway.

For more information about this project, please contact:

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www.fws.gov/southeast/IMnetwork/motus.html

Collaborative research and monitoring efforts are allowing scientists and natural resource managers to learn more about the migratory behaviors of many different bird and bat species.



Locations of current (October 2016) Motus stations operated by refuges in the South Atlantic Landscape Conservation Cooperative.